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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/608,011	06/30/2000	Hong-Ta James Chan	194027US3	9552
22850	7590	03/01/2004	EXAMINER	
OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT, P.C. 1940 DUKE STREET ALEXANDRIA, VA 22314			BRUENJES, CHRISTOPHER P	
			ART UNIT	PAPER NUMBER
			1772	

DATE MAILED: 03/01/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<p align="center">Office Action Summary</p>	Application No. 09/608,011	Applicant(s) CHAN ET AL.	
	Examiner Christopher P Bruenjes	Art Unit 1772	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 02 January 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 10,11,15,19 and 22-36 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 10,11,15,19 and 22-36 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>20031117, 20040102</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on November 17, 2003 has been entered.

REPEATED REJECTIONS

2. The 35 U.S.C. 102 rejections of claims 1-11 and 25-26 as anticipated by Ageheim et al are repeated for the reasons previously of record in the Office Action mailed May 15, 2003, Page 3 Paragraph 5.

Regarding the newly added limitation based on the Fedors' formula, EVOH copolymer, polyamide, aliphatic polyketone, and polyester have a solubility parameter greater than 11, and even though Ageheim et al teaches that the barrier material also comprises a polyolefin, the scope of the claim is open language

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and only requires that a polymer having a solubility parameter greater than 11 be comprised in the barrier material.

3. The 35 U.S.C. 103 rejection of claim 19 over Ageheim et al is repeated for the reasons previously of record in the Office Action mailed May 15, 2003, Pages 4-5 Paragraph 6.

Regarding the newly added limitation based on the Fedors' formula, EVOH copolymer, polyamide, aliphatic polyketone, and polyester have a solubility parameter greater than 11, and even though Ageheim et al teaches that the barrier material also comprises a polyolefin, the scope of the claim is open language and only requires that a polymer having a solubility parameter greater than 11 be comprised in the barrier material.

4. The 35 U.S.C. 103 rejections of claims 15 and 23-24 over Ageheim et al in view of Hata et al are repeated for the reasons previously of record in the Office Action mailed May 15, 2003, Pages 5-7 Paragraph 7.

Regarding the newly added limitation based on the Fedors' formula, EVOH copolymer, polyamide, aliphatic polyketone, and polyester have a solubility parameter greater than 11, and even though Ageheim et al teaches that the barrier material also comprises a polyolefin, the scope of the claim is open language

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and only requires that a polymer having a solubility parameter greater than 11 be comprised in the barrier material.

5. The 35 U.S.C. 103 rejection of claim 22 over Ageheim et al in view of Kido is repeated for the reasons previously of record in the Office Action mailed May 15, 2003, Pages 7-8 Paragraph 8.

Regarding the newly added limitation based on the Fedors' formula, EVOH copolymer, polyamide, aliphatic polyketone, and polyester have a solubility parameter greater than 11, and even though Ageheim et al teaches that the barrier material also comprises a polyolefin, the scope of the claim is open language and only requires that a polymer having a solubility parameter greater than 11 be comprised in the barrier material.

NEW REJECTIONS

Double Patenting

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground

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provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

6. Claims 10-11, 19, 25-29, 31-32, and 34-36 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1 and 13-23 of U.S. Patent No. 6,398,059. Although the conflicting claims are not identical, they are not patentably distinct from each other because Hayashi teaches a shaped article attached to a fuel container comprising a laminate of a barrier material in contact with a polyolefin substrate. The polyolefin substrate is a high-density polyethylene, and the barrier material is formed from ethylene-vinyl alcohol, polyamide or aliphatic polyketone, or combination thereof. The barrier material has a solubility parameter obtained according to Fedors' formula greater than 11. The article is formed by injection molding. The component is a tube as shown in Figure 1. The ethylene-vinyl alcohol also may comprise 50-95% of the barrier material and 5-50% by weight of the barrier material is boronic acid-modified polyolefin.

The claims of Patent '059 fail to explicitly teach the gasoline permeation or gas transmission of the barrier material or that the polyolefin has a Fedors' solubility parameter of 6.7. However, it would have been obvious to one having ordinary

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skill in the art at the time the applicant's invention was made to recognize that a barrier material made from the same materials must have the same gasoline permeation and oxygen transmission rate, and that according to Fedors' formula the solubility parameter of high-density polyethylene is 6.7. Note the process limitation of how the barrier material is applied to the substrate receives little patentable weight in an article claim.

7. Claims 10-11, 15, 19, 26-32, and 34-36 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-15 of copending Application No. 09/817,029. Although the conflicting claims are not identical, they are not patentably distinct from each other because the claims of '029 teach a co-extrusion blow-molded or injection molded fuel container comprising an interlayer of barrier resin and inner and outer layers of polyolefin as a substrate, and a barrier material in contact with the polyolefin with no intervening adhesive layer comprising EVOH copolymer, polyamide, aliphatic polyketone, polyester, or combinations thereof. According to the Fedors' formula the polymers of the barrier material listed above have a solubility parameter greater than 11. The barrier material is

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applied by a flame spray coating process. The polyolefin is high-density polyethylene. The barrier material also comprises 50-95% ethylene vinyl alcohol copolymer and 5-50% by weight of a boronic acid-modified polyolefin. The gasoline permeation of the barrier material is 100 g 20 μ m/m² day at 40°C and 65%RH. The Fedors' solubility parameter for high-density polyethylene is 6.7. Because the barrier material is made from the same materials as the barrier material of the instant invention the oxygen transmission rate must be 100cc 2020 μ m/m² day atm at 20°C and 65%RH.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Claim Objections

8. Claim 10, 27, and 31-33 are objected to because of the following informalities: EVOH should be written in long form as ethylene-vinyl alcohol. Appropriate correction is required.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

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The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

9. Claims 10-11, 15, 19, and 22-36 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claim 10, the newly added limitation renders the claim vague and indefinite because it is not understood whether the entire composition of the barrier material has a solubility parameter greater than 11, or if the EVOH copolymer, polyamide, aliphatic polyketone, or polyester have a solubility parameter greater than 11, but can be blended or mixed with other polymers. The claim is determined to define the EVOH copolymer, polyamide, aliphatic polyketone, or polyester have a solubility parameter greater than 11, but based on the comprising language, the barrier material can also include other polymers.

Claims 11, 15, 19, and 22-36 are rejected because they are dependent on a rejected claim.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

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A person shall be entitled to a patent unless -

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

10. Claims 10, 27-28, 31, and 34-36 are rejected under 35

U.S.C. 102(b) as being anticipated by SEIT (JP 58-196873 A).

SEIT anticipates a shaped article comprising a barrier material in contact with at least a part of a surface of a substrate of a polyolefin wherein no intervening adhesive layer is present between barrier material and said surface. The substrate is a powdered polyethylene (see abstract). Applied directly to the polyethylene, by electrostatic coating or fluidized bed coating, is a powder saponified EVA or ethylene vinyl alcohol, alone or combined with polyamide (see abstract). According to Fedors' formula the solubility parameters for ethylene-vinyl acetate and polyamide are greater than 11, and the solubility parameter for polyethylene is 6.7. Additionally, EVOH copolymer and polyamide inherently have a gasoline permeation of 100 g 20 μ m/m² day at 40°C and 65%RH and oxygen transmission rate of 100cc 2020 μ m/m² day atm at 20°C and 65%RH, because polymers having the same composition applied by the same method must have the same properties.

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11. Claims 10, 19, 28, and 34-36 are rejected under 35 U.S.C. 102(b) as being anticipated by Berteaud et al (USPN 5,234,670).

Berteaud et al anticipate a shaped article comprising a barrier material in contact with at least a part of a surface of a substrate of a polyolefin wherein no intervening adhesive layer is present between barrier material and said surface. The substrate is high-density polyethylene (col.7, 1.57-60). Applied directly to the polyethylene, by electrostatic powder coating (col.3, 1.27-29), is a powder polyamide (col.2, 1.24-26). According to Fedors' formula the solubility parameters for ethylene-vinyl acetate and polyamide are greater than 11, and the solubility parameter for polyethylene is 6.7. Additionally, polyamide inherently has a gasoline permeation of 100 g 20 μ m/m² day at 40°C and 65%RH and oxygen transmission rate of 100cc 2020 μ m/m² day atm at 20°C and 65%RH, because polymers having the same composition applied by the same method must have the same properties.

12. Claims 10, 30 are rejected under 35 U.S.C. 102(b) as being anticipated by Moens et al (5,639,560).

Moens et al anticipate a shaped article comprising a barrier material in contact with at least a part of a surface of

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a substrate of a polyolefin wherein no intervening adhesive layer is present between barrier material and said surface. The substrate is a polyolefin (col.12, 1.1-6). Applied directly to the polyolefin, by electrostatic coating or fluidized bed coating (col.11,1.46-50), is a powder polyester (see abstract). According to Fedors' formula the solubility parameters for polyester are greater than 11.

13. Claims 10, 29 are rejected under 35 U.S.C. 102(b) as being anticipated by George (EP 0,339,742 A2).

George anticipates a shaped article comprising a barrier material in contact with at least a part of a surface of a substrate of a polyolefin wherein no intervening adhesive layer is present between barrier material and said surface. The substrate is a polyolefin (col.6, 1.10-15). Applied directly to the polyolefin, by flame spraying is a powder aliphatic polyketone (see abstract). According to Fedors' formula the solubility parameters for polyester are greater than 11.

14. Claims 27-28, 30, and 36 are rejected under 35 U.S.C. 102(b) as being anticipate by Ageheim et al (WO 93/09948).

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Ageheim et al anticipate a shaped article in the form of tubes and containers for fuel transport and storage (p.1, 1.1-10) comprising a barrier material comprising polyamide, polyester, or EVOH (p.3, 1.30-35 and p. 4, 1.1-4) in contact with at least a part of a surface of a substrate of a polyolefin such as polyethylene or polypropylene (see abstract). The shaped article does not have a layer of adhesive between the polyolefin layer and the barrier layer. Note the method of applying the barrier material to the substrate or the method of making the substrate receives little patentable weight. EVOH copolymer, polyamide, aliphatic polyketone, and polyester have a solubility parameter greater than 11, and even though Ageheim et al teaches that the barrier material also comprises a polyolefin, the scope of the claim is open language and only requires that a polymer having a solubility parameter greater than 11 be comprised in the barrier material. According to Fedors' formula polyethylene has a solubility parameter of 6.7.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

15. Claims 34-35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ageheim et al (WO 93/09948).

Ageheim et al teach all that is claimed in claim 10 as shown above, but fail to explicitly teach the gasoline permeation and oxygen transmission rates of the barrier material. However, Ageheim et al teach the same polymers for the barrier material, and teach that the barrier material is restricted to a thickness that obtains the permeation and transmission levels required for the article (p.4, 1.23-35). One of ordinary skill in the art would have recognized that by using the same polymers in the barrier material, the thickness

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of the layer would be determined in order to lower the gasoline permeation and oxygen transmission rate to the level needed for the intended end product, as taught by Ageheim et al.

Therefore, it would have been obvious to one having ordinary skill in the art to change the thickness of the barrier layer of the shaped article so that the gasoline permeation of the barrier material is 100 g 20 μ m/m² day at 40°C and 65%RH and the oxygen transmission rate is 100cc 2020 μ m/m² day atm at 20°C and 65%RH when using the same polymers to form the barrier layer as the instant invention, as taught by Ageheim et al.

ANSWERS TO APPLICANT'S ARGUMENTS

16. Applicant's arguments regarding the 35 U.S.C. 102 rejections of claims 10-11 and 25-26 as anticipated by Ageheim et al have been fully considered but they are not persuasive.

In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., that the barrier layer and substrate layer must not be compatible) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993). In this

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case, although Ageheim does teach that the barrier layer and substrate layer must be compatible, the claims do not state that the layers can't be compatible. Furthermore, although the limitation was added that at least one of the polymers in the barrier material must be selected from EVOH, polyamide, polyketone, polyester or combinations thereof, having a solubility parameter greater than 11, the scope of the claim does not limit the entire barrier material to having a solubility parameter greater than 11, therefore the scope of the claim allows for other polymers having a solubility parameter under 11 to be incorporated in the barrier material.

17. Applicant's arguments regarding the 35 U.S.C. 103 rejection of claim 19 over Ageheim et al have been fully considered but they are not persuasive.

In response to applicant's argument that Ageheim fails to teach that the layers are incompatible, see the response above for the 35 U.S.C. 102 rejections.

18. Applicant's arguments regarding the 35 U.S.C. 103 rejections of claims 15 and 23-24 over Ageheim et al in view of Hata et al have been fully considered but they are not persuasive.

In response to applicant's argument that Ageheim fails to teach that the layers are incompatible, see the response above for the 35 U.S.C. 102 rejections.

19. Applicant's arguments regarding the 35 U.S.C. 103 rejection of claim 22 over Ageheim et al in view of Kido have been fully considered but they are not persuasive.

In response to applicant's argument that Ageheim fails to teach that the layers are incompatible, see the response above for the 35 U.S.C. 102 rejections.

Conclusion

20. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Moens et al (USPN 6,384,102); Arai et al (USPN 6,632,487).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christopher P Bruenjes whose telephone number is 571-272-1489. The examiner can normally be reached on Monday thru Friday from 8:00am-4:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Harold Pyon can be reached on 571-272-1498. The fax phone number for the

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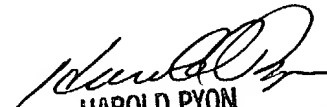

organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Christopher P Bruenjes
Examiner
Art Unit 1772

CPB

February 13, 2004


HAROLD PYON
SUPERVISORY PATENT EXAMINER


2/21/04